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CLAIMS:

1. An isolated 20P1F12/TMPRSS2 protein having an amino acid sequence shown in FIG. 1 (SEQ ID NO. XX). 2

5 2. An isolated polynucleotide selected from the group consisting of (a) a polynucleotide having the sequence as shown in FIG. 1 (SEQ ID NO. XX), wherein T can also be U; (b) a polynucleotide encoding a 20P1F12/TMPRSS2 polypeptide whose sequence is encoded by the cDNA contained in plasmid p20P1F12-GTC1 as deposited with American Type Culture Collection as Accession No. 207097; and (c) a polynucleotide encoding the 20P1F12/TMPRSS2 protein of claim 1.

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3. An isolated polynucleotide which is fully complementary to a polynucleotide according to claim 2.

15 4. A recombinant expression vector which contains a polynucleotide according to claim 3.

5. A host cell which contains an expression vector according to claim 4.

20 6. An antibody which immunospecifically binds to the 20P1F12/TMPRSS2 protein of claim 1.

7. A monoclonal antibody according to claim 6.

25 8. A fragment of the antibody of claim 7.

9. A recombinant protein comprising the antigen binding domain of the antibody of claim 7.

30 10. The antibody of claim 7 which is labeled with a detectable marker.

11. The monoclonal antibody of claim 7 which is conjugated to a toxin.

35 12. The monoclonal antibody of claim 7 which is conjugated to a therapeutic agent.

13. The antibody fragment of claim 8 which is labeled with a detectable marker.

14. The recombinant protein of claim 9 which is labeled with a detectable marker.

15. An assay for detecting the presence of a 20P1F12/TMPRSS2 protein in a biological sample comprising contacting the sample with an antibody of claim 10, 13 or 14 and detecting the binding of 20P1F12/TMPRSS2 protein in the sample thereto.

16. An assay for detecting the presence of a 20P1F12/TMPRSS2 polynucleotide in a biological sample, comprising

(a) contacting the sample with a polynucleotide probe which specifically hybridizes to the 20P1F12/TMPRSS2 cDNA contained within plasmid p20P1F12-GTC1 as deposited with American Type Culture Collection as Accession No. 207097, or the polynucleotide as shown in FIG. 1 (SEQ ID NO. ~~XX~~), or the complements thereof; and

(b) detecting the presence of a hybridization complex formed by the hybridization of the probe with 20P1F12/TMPRSS2 polynucleotide in the sample, wherein the presence of the hybridization complex indicates the presence of 20P1F12/TMPRSS2 polynucleotide within the sample.

17. An assay for detecting the presence of 20P1F12/TMPRSS2 mRNA in a biological sample comprising:

(a) producing cDNA from the sample by reverse transcription using at least one primer;

(b) amplifying the cDNA so produced using 20P1F12/TMPRSS2 polynucleotides as sense and antisense primers to amplify 20P1F12/TMPRSS2 cDNAs therein;

(c) detecting the presence of the amplified 20P1F12/TMPRSS2 cDNA,

wherein the 20P1F12/TMPRSS2 polynucleotides used as the sense and antisense probes are capable of amplifying the polynucleotide shown in FIG. 1 (SEQ ID NO. ~~XX~~).

18. A composition for the treatment of prostate cancer comprising an antibody according to claim 7, 11 or 12, wherein the antibody binds to an extracellular domain of 20P1F12/TMPRSS2.

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- 5 37. A composition for the treatment of colon cancer comprising an antibody according to claim 7, 11 or 12, wherein the antibody binds to an extracellular domain of 20P1F12/TMPRSS2.

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